

**CLAS Deans' comments on
BA in Mathematics, Non-Accredited Program Report
Reviewer: Michael Cornebise, Associate Dean**

Last report submitted by department: Fall 2020 (Initial Assessment Plan).

Comments:

The BA in Mathematics 4-year assessment plan utilizes data from two main sources including course grades from multiple required courses including MAT 2443, MAT 2800, MAT 3501, MAT 3530, MAT 4760, and MAT 4860, along with a critical thinking rubric used in assessing presentations in MAT 4700. The program is also developing an exit survey that they plan to administer at the end of the Fall 2022 semester. The data in the report suggest that students are doing well learning foundational concepts and are also able to think critically based on their performance indicated by the MAT 4700 rubric. While recent data haven't been used to inform curricular decisions, the department has used assessment data in the past to guide curricular changes. Assessment data are shared with the department at a faculty meeting each semester. In my opinion, the current plan places too much emphasis on student course grades, though I commend the department's use of a critical thinking rubric in MAT 4700 along with the forthcoming exit survey to provide more standardized assessment measures. While student course grades have their place in assessment, I encourage the department to consider other methods to assess student learning to further diversify their assessment enterprise.

Degree Program: Mathematics (B.A.)

Student Learning Outcome	ULG	Measures/Instruments	How Information is used
Students will demonstrate knowledge of core mathematical content in differential and integral Calculus and its applications	CT-4, 5, 6 QR-1, 2, 3, 4, 5, 6	Course grades from MAT 2443 – Calculus and Analytic Geometry III; MAT 3501 – Differential Equations I MAT 2443- 2021-22	This data are collected by the course faculty and the department chair. Course grade data are shared informally among course instructors and the

		<p>2 of 2 students met or exceeded expectations</p> <p>MAT 3501 – 2021-22 5 of 5 students met or exceeded expectations</p>	<p>department chair. Students who earn a “C” or lower typically are required to meet with their advisor to discuss potential issues and deficiencies that may be present moving forward.</p>
<p>Students will demonstrate knowledge of core mathematical content in algebraic structures</p>	<p>CT-4, 5, 6</p> <p>QR-1, 2, 3, 4, 5, 6</p>	<p>Course grades from MAT 3530 – Abstract Algebra MAT 4760 – Linear Algebra</p> <p>MAT 3530- 2021-22 3 of 3 students met or exceeded expectations</p> <p>MAT 4760 – 2021-22 2 of 2 students met or exceeded expectations</p>	<p>This data are collected by the course faculty and the department chair. Course grade data are shared informally among course instructors and the department chair. Students who earn a “C” or lower typically are required to meet with their advisor to discuss potential issues and deficiencies that may be present moving forward.</p>
<p>Students will be able to communicate about reasoning and proof in both oral and written forms</p>	<p>WCR – 1, 2, 3, 4</p> <p>SL – 3, 7</p>	<p>Course grades from MAT 2800 – Foundations of Mathematics MAT 4860 – Mathematical Analysis</p> <p>MAT 2800- 2021-22 2 of 3 students met or exceeded expectations</p>	<p>This data are collected by the course faculty and the department chair. Course grade data are shared informally among course instructors and the department chair. Students who earn a “C” or lower</p>

		MAT 4860 – 2021-22 1 of 1 students met or exceeded expectations	typically are required to meet with their advisor to discuss potential issues and deficiencies that may be present moving forward.
Students will demonstrate critical thinking skills	CT – 1, 2, 3, 4, 5, 6 RC-4	Presentations in MAT 4700 2021-22 Two students achieved exemplary rating in all four rubric categories.	Students are required to write and present mathematical ideas. A rubric is used to assess at a presentation of this work.

Improvements and Changes Based on Assessment

1. Provide a short summary (1-2 paragraphs or bullets) of any curricular actions (revisions, additions, and so on) that were approved over the past four years as a result of reflecting on the student learning outcomes data. Are there any additional future changes, revisions, or interventions proposed or still pending?

Due to the uncertainty and changes in modes of delivery because of the pandemic, we have not made any curricular changes. However, prior to that we had made several changes regarding course prerequisites and required course for the program. These changes merged what had been two different options in the degree (pure, applied).

We have developed an exit survey to administer to recent graduates. The survey will be first administered in Fall 2022.

2. Please provide a brief description or bulleted list of any improvements observed/measured in student learning over the past four years. Be sure to mention any intervention made that has not yet resulted in student improvement (if applicable).

Regarding the data provided, currently we have 9 students declared as a mathematics major. The data show that these students are doing well in learning the material and are able to think critically and they succeed in the more intensive assessment in MAT 4700. The MAT 2800 course shows the most volatility because this course is usually a first introduction to abstract ideas in mathematics and is a transition from mathematical as a computational and applied field to mathematics as also a theoretical field.

3. Using the form below, please document annual faculty and committee engagement with the assessment process (such as the review of outcomes data, revisions/updates to assessment plan, and reaffirmation of SLOs).

History of Annual Review		
Date of Annual Review	Individuals/Groups who Reviewed Plan	Results of the Review (i.e., reference proposed changes from #1 above, revised SLOs, etc...)
Fall 2021	Department Chair Department as a whole at a department meeting	No changes recommended as mentioned above we recently made changes that are still playing out; also due to the uncertainty of the past two years.
Spring 2022	Department Chair Department as a whole at a department meeting	No changes recommended as mentioned above we recently made changes that are still playing out; also due to the uncertainty of the past two years.

Dean Review & Feedback



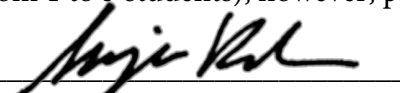
Dean or designee

November 22, 2022

Date

**Academic Affairs –Review & Feedback
B.A. Mathematics**

The SLO report for the B.A. in Mathematics indicates that course grades are the main source of data for measuring the program’s four student learning outcomes. Since the course grade is a single, cumulative marker of progress, the program may be missing an opportunity for more precise data that could give a clearer picture of how well students are performing. For instance, tying each learning outcome to a specific, regularly required assignment would facilitate a more detailed assessment process. The program should be commended for developing an exit survey for its majors. The low number of students enrolled in each course used for assessment (from 1 to 5 students), however, poses a challenge.



VPAA Office Dr. Suzie Park

3/8/23

Date